

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancel)

2. (Currently Amended) ~~The method of claim 9, A method for reducing the crest factor of a multi-carrier signal, the method comprising:~~

- (a) evaluating an inverse Fourier transform of the multi-carrier signal, thereby generating a transformed multi-carrier signal;
- (b) defining a signal-to-be-corrected to be the transformed multi-carrier signal;
- (c) generating a simulated output signal, wherein generating a simulated output signal comprises filtering the signal-to-be-corrected;
- (d) estimating a signal maximum of the simulated output signal;
- (e) deriving a first correction variable on the basis of the estimate;
- (f) correcting the signal-to-be-corrected using at least the first correction variable, thereby generating a corrected output signal having a reduced crest factor;
- (g) defining the corrected output signal to be the signal-to-be-corrected; and
- (h) iteratively repeating steps (c) through (g) until the occurrence of a condition selected from the group consisting of causing the corrected output signal to have a crest factor below a predetermined threshold, and performing a predetermined number of iterations;

the method further comprising reducing a bit width of the transformed multi-carrier signal.

**3. (Previously Presented)** The method of claim 4, further comprising temporarily storing the corrected output signal for use in a subsequent iteration step.

**4. (Previously Presented)** A method for reducing the crest factor of a multi-carrier signal, the method comprising:

- (a) evaluating an inverse Fourier transform of the multi-carrier signal, thereby generating a transformed multi-carrier signal;
- (b) defining a signal-to-be-corrected to be the transformed multi-carrier signal;
- (c) generating a simulated output signal by simulating an effect of a downstream filtering-and-interpolating system on the corrected output signal;
- (d) estimating a signal maximum of the simulated output signal;
- (e) deriving a first correction variable on the basis of the estimate;
- (f) correcting the signal-to-be-corrected using at least the first correction variable, thereby generating a corrected output signal having a reduced crest factor;
- (g) defining the corrected output signal to be the signal-to-be-corrected; and
- (h) iteratively repeating steps (c) through (g) until the occurrence of a condition selected from the group consisting of causing the corrected output signal to have a crest factor below a predetermined threshold, and performing a predetermined number of iterations.

**5. (Original)** The method of claim 4,

wherein correcting the signal-to-be-corrected comprises subtracting therefrom a correction signal formed by multiplying the first correction variable by a normalized impulse, thereby generating the corrected output signal;

**6. (Original)** The method of claim 5, further comprising temporarily storing the corrected output signal.

**7. (Original)** The method of claim 4, further comprising:

deriving a second correction variable from the estimate in the same iteration step in which the first correction variable is derived,

subtracting, from the signal-to-be-corrected, a value derived from the first and second correction variables, thereby generating the corrected output signal.

**8 (Original)** The method of claim 7, further comprising temporarily storing the corrected output signal.

**9. (Previously Presented)** A method for reducing the crest factor of a multi-carrier signal, the method comprising:

(a) evaluating an inverse Fourier transform of the multi-carrier signal, thereby generating a transformed multi-carrier signal;

(b) defining a signal-to-be-corrected to be the transformed multi-carrier signal;

(c) generating a simulated output signal;

(d) estimating a signal maximum of the simulated output signal;

(e) deriving a first correction variable on the basis of the estimate;

- (f) correcting the signal-to-be-corrected using at least the first correction variable, thereby generating a corrected output signal having a reduced crest factor;
- (g) defining the corrected output signal to be the signal-to-be-corrected; and
- (h) iteratively repeating steps (c) through (g) until the occurrence of a condition selected from the group consisting of causing the corrected output signal to have a crest factor below a predetermined threshold, and performing a predetermined number of iterations;

the method further comprising reducing a bit width of the transformed multi-carrier signal.

**10. (Original)** The method of claim 4, wherein the simulated signal comprises a plurality of sample values and deriving the correction variable comprises using a subset of the sample values.

**11. (Previously Presented)** A method for reducing the crest factor of a multi-carrier signal, the method comprising:

- (a) evaluating an inverse Fourier transform of the multi-carrier signal, thereby generating a transformed multi-carrier signal;
- (b) defining a signal-to-be-corrected to be the transformed multi-carrier signal;
- (c) generating a simulated output signal;
- (d) estimating a signal maximum of the simulated output signal;
- (e) deriving a first correction variable by identifying a particular sample point at which the estimate occurs;

- (f) correcting the signal-to-be-corrected using at least the first correction variable, thereby generating a corrected output signal having a reduced crest factor;
- (g) defining the corrected output signal to be the signal-to-be-corrected; and
- (h) iteratively repeating steps (c) through (g) until the occurrence of a condition selected from the group consisting of causing the corrected output signal to have a crest factor below a predetermined threshold, and performing a predetermined number of iterations.

**12. (Original)** The method of claim 4, wherein simulating an effect of a filtering-and-interpolating system comprises convolving a shortened impulse response of a filter and a reduced impulse response of an interpolator with the signal-to-be-corrected.

**13. (Original)** The method of claim 12, further comprising:

selecting the shortened impulse response to be the first 20% of the sample values of the impulse response of the filter; and

selecting the reduced impulse response to be the central 60% of the sample values of the impulse response of the interpolator.

**14. (Previously Presented)** The method of claim 4, further comprising passing the corrected output signal through a D/A converter.

**15. (Currently Amended)** A method for reducing the crest factor of a multi-carrier signal, the method comprising:

- (a) evaluating an inverse Fourier transform of the multi-carrier signal, thereby generating a transformed multi-carrier signal;
- (b) defining a signal-to-be-corrected to be the transformed multi-carrier signal;

- (c) generating a simulated output signal by simulating ~~one of either~~ a high-pass filter followed by a low-pass filter, [[and]] or a fourth order IIR high pass filter and an FIR interpolation filter;
- (d) estimating a signal maximum of the simulated output signal;
- (e) deriving a first correction variable on the basis of the estimate;
- (f) correcting the signal-to-be-corrected using at least the first correction variable, thereby generating a corrected output signal having a reduced crest factor;
- (g) defining the corrected output signal to be the signal-to-be-corrected; and
- (h) iteratively repeating steps (c) through (g) until the occurrence of a condition selected from the group consisting of causing the corrected output signal to have a crest factor below a predetermined threshold, and performing a predetermined number of iterations.

**16. (Cancel)**

**17. (Previously Presented)** The method of claim 4, wherein the multi-carrier signal is selected from the group consisting of a DMT signal and an OFDM signal.